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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,645	06/01/2001	Jeyhan Karaoguz	41996/CAG/B600	1717

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EXAMINER

KIM, KEVIN

ART UNIT PAPER NUMBER

2634

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,645

Applicant(s)

KARAOGUZ, JEYHAN

Examiner

Kevin Y Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12, 14-21, 23-27, 31-33, 35-39, 43, 44, 46-51 and 53-57 is/are rejected.
- 7) ☒ Claim(s) 4, 13, 22, 28-30, 34, 40-42, 45, 52 and 58-62 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: the word "coupled" in line 2 appears to be a typographical error of "couple". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,5-12,14-18,43,44,46-51,53-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Shin (US 6,772,391).

Consider claims 1, 10, 43 and 50. Referring to Fig.6, Shin discloses an encoder (17) comprising,

"a state machine" (21) for generating a plurality of state bits, i.e., bits in the registers inside the state machine and

"an interface" (43) to couple an input (41) relating to one of the state bits into the state machine during a time period. In particular with respect to claims 43 and 50, the input (41) to the interface is "a binary representation of the state," since it is either a zero or one.

Regarding claims 2 and 11, Fig.6 also show that the “interface” is a switch (SW).

Regarding claims 3, 12, 44 , 46 and 51, when the interface in the form of a switch (43), is closed i.e., during “a second period,” an input X_n is coupled into the state machine.

Regarding claims 5 and 14, the encoder has an output (P_N) that includes “a second one of the state bits,” i.e., one the values in the registers.

Regarding claims 6 and 15, the interface (43) comprises an output (x_N) and the encoder output further includes the interface output.

Regarding claims 7,16,47 and 53 the state machine is a 4 state finite machine, see Fig.1, thus reading on “a 2^p -state finite state machine” where p equals 2.

Regarding claims 8,17,48 and 54, Fig. 6 shows two “delay registers” represented by two rectangles in the state machine (21).

Regarding claims 9,18,49 and 55, Fig.6 shows an adder coupled to the delay registers.

Consider claim 56. Shin describes generating “a payload,” i.e., information, as a function of a state machine output. Col.5, lines 36-40. Next “a tail” is generated as a function of a binary representation of the state machine output. See col. 57-62. The tail is appended to the payload as the word implies.

Regarding claim 57, the state machine of Shin outputs a plurality of state bits, see the plurality of registers. And the state bits during generating of the tail, i.e., the outputs from the registers, are serially fed back to the state machine.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19-21,23-27,31-33,35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin (US 6,772,391) in view of Stephen et al (US 6,483,283).

Consider claims 19 and 31. Referring to Fig.6, Shin discloses an encoder (17) comprising,

“a state machine” (21) for generating a plurality of state bits, and

“an interface” (43) to couple an input (41) relating to one of the state bits into the state machine during a time period. Shin fails to disclose “an RF stage coupled to the encoder.” Stephen et al teaches the use of an encoder in an RF communication system for a forward error correction. Thus, it would have been obvious to one skilled in the art to use the encoder of Shin in an RF transmitter, as taught by Stephen et al, for the purpose of improving the bit error rate performance.

Regarding claims 20 and 32, Fig.6 shows that the “interface” (43) is a switch (SW).

Regarding claims 21 and 33, when the switch is closed i.e., during “a second period,” an input X_n is coupled into the state machine.

Regarding claims 23 and 35, the encoder has an output (P_N) that includes “a second one of the state bits,” i.e., one the values in the registers

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Regarding claims 24 and 36 the interface (43) comprises an output (x_N) and the encoder output further includes the interface output.

Regarding claims 25 and 37 the state machine is a 4 state finite machine, see Fig.1, thus reading on “a 2^p -state finite state machine” where p equals 2.

Regarding claims 26 and 38 Fig. 6 shows two “delay registers” represented by two rectangles.

Regarding claims 27 and 39 Fig.6 shows an adder coupled to the delay registers

Allowable Subject Matter

6. Claims 4,13,22,28-30,34,40-42,45,52,58-62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk

A handwritten signature in cursive script, appearing to read "Chieh M. Fan".

CHIEH M. FAN
PRIMARY EXAMINER